AMENDMENTS TO THE CLAIMS

1. (Previously presented) A method for conveying data between terminals in a communications network comprising at least one low-bit-rate artery and at least one standard-bit-rate artery, the data to be transmitted taking the form of packets having a size smaller than the size of a basic transmission unit, the method comprising:

receiving, from a first originating terminal at an adaptation unit of a first switch in the communications network, data according to a first protocol;

converting the received data into coded frames using a compression algorithm;

forming a packet of application data according to a second protocol, the packet of application data comprising a plurality of the coded frames;

forming a Common Part Sublayer packet comprising the packet of application data and a Common Part Sublayer header including information required by at least one of the first or second protocols;

inserting the Common Part Sublayer packet into a first basic transmission unit at a rate of one packet per unit for transmission to a first end of the low-bit-rate artery;

at the first end of the low-bit-rate artery:

extracting the Common Part Sublayer packets from the first basic transmission units and from basic transmission units received from different originating terminals;

multiplexing the extracted Common Part Sublayer packets into a second basic transmission unit for transmission to a second end of the low-bit-rate artery; and

sending the second basic transmission unit from the first end to the second end of the low-bit-rate artery;

at the second end of the low-bit-rate artery:

receiving the second basic transmission unit;

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

extracting the Common Part Sublayer packets from the second basic transmission unit;

determining the terminating terminal to which each of the Common Part Sublayer packets belong and inserting each of the determined Common Part Sublayer packets into a third basic transmission unit at a rate of one packet per unit; and

sending the third basic transmission unit from the second end of the low-bit-rate artery to an adaptation unit of a second switch in the communications network to which the terminating terminal is assigned; and

at the adaptation unit of the second switch:

extracting the Common Part Sublayer packet from each third basic transmission unit;

determining the address of the terminating terminal;

determining whether any Common Part Sublayer packet has been lost;

extracting the coded frames from the packet of application data; and

decompressing the coded frames to recreate the data from the originating terminal.

2. (Currently amended) The method according to claim 1, further comprising multiplexing data in Common Part Sublayer packets from the same originating terminal before transmission [[to]] <u>at</u> the first end of the low-bit-rate artery and demultiplexing the data in the Common Part Sublayer packets extracted at the second end of the low-bit-rate artery.

3. (Canceled)

4. (Previously presented) The method according to claim 1, wherein the second protocol comprises an AAL2 protocol, and wherein the AAL2 protocol is used when multiplexing the Common Part Sublayer packets in the second basic transmission unit.

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Suite 2800
Seattle, Washington 98101
206.682.8100

5. (Previously presented) The method according to claim 1, wherein the packet of application data includes a fixed number of successive coded frames.

6. (Previously presented) The method according to claim 1, wherein the first protocol comprises an AAL1 protocol.

7. (Previously presented) The method according to claim 1 further comprising, if the second end of the low-bit-rate artery corresponds to a first end of an additional low-bit-rate artery, repeating the multiplexing of the Common Part Sublayer packets from the different originating terminals in a second basic transmission unit for transmission from the first end to a second end of the additional low-bit-rate artery.

8. (Canceled)

9. (Previously presented) The method according to claim 1, further comprising using a user-to-user information (UUI) field in the header of the Common Part Sublayer packet to check the integrity of the data sent between the originating terminal and the terminating terminal.

10. (Previously presented) The method according to claim 1, wherein the data from the originating terminal comprises video or digital voice data.

11. (Currently amended) An apparatus for data transmission between an originating terminal and a terminating terminal in a communications network comprising at least one low-bit-rate artery and at least one standard-bit-rate artery, wherein the apparatus comprises:

a multiplexer device having a packetization function and a switching function, wherein the switching function of the multiplexer device is configured to switch packets transmitted in basic transmission units according to an adaptation layer protocol among several virtual lines constituted by connections in multiplexed or non-multiplexed mode, wherein data transmitted on

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Suite 2800
Seattle, Washington 98101
206.682.8100

the at least one standard-bit-rate artery is multiplexed onto the at least one low-bit-rate artery; and

an adaptation unit associated with the terminating terminal, wherein the adaptation unit is configured to:

extract the packets from the basic transmission units;

determine whether any packet in the basic transmission units has been lost; [[and]]

extract the data from the packets; and

decompress the data in order to recreate the data from the originating terminal.

12. (Previously presented) The apparatus according to claim 11 further comprising:

a shuffler configured to transmit first basic transmission units to the multiplexer device for transmission through the at least one low-bit-rate artery and further configured to transparently switch basic transmission units that are not to be transmitted through the at least one low-bit-rate artery,

wherein the packetization function of the multiplexer device is configured to extract the packets from the first basic transmission units and to insert the packets into second basic transmission units for transmission through the at least one low-bit-rate artery, and

a table configured to determine the at least one low-bit-rate artery over which the packets in the second basic transmission units are to be transmitted.

13. (Previously presented) The apparatus according to claim 12, wherein the adaptation layer protocol is an AAL2 protocol.

14. (Currently amended) The apparatus according to claim 13, wherein the apparatus is an ATM switch that includes the multiplexer device, wherein the multiplexer device is configured to switch Common Part Sublayer packets among the several virtual lines constituted

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Seattle, Washington 98101
206.682.8100

by connections in multiplexed or non-multiplexed mode, the connections comprising ATM connections, [[in]] the multiplexed or non-multiplexed mode comprising a multiplexed or non-multiplexed AAL2 mode.

15. (Currently amended) A network configured to convey data between at least two terminals, the at least two terminals comprising an originating terminal and a terminating terminal, the network comprising:

one or more low-bit-rate arteries;

one or more standard-bit-rate arteries;

a multiplexer device having a packetization function and a switching function, wherein the switching function of the multiplexer device is configured to switch packets transmitted in basic transmission units among several virtual lines constituted by connections in multiplexed or non-multiplexed mode, wherein data transmitted on the one or more standard-bit-rate arteries is multiplexed onto the one or more low-bit-rate arteries, and wherein at least one multiplexer device is positioned upstream to and downstream from a data transmission on a low-bit-rate artery; and

a device associated with the terminating terminal, wherein the device is configured to extract the packets from the basic transmission units, determine whether any packet has been lost, [[and]] extract the data from the packets, and decompress the data in order to recreate data from the originating terminal.

16. (Previously presented) A network according to claim 15, wherein the multiplexer device is incorporated into an ATM switch.

17. (Currently amended) The network of Claim 15, wherein network comprises at least two of the multiplexer devices, wherein a first multiplexer device is positioned at a first end

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Suite 2800
Seattle, Washington 98101
206.682.8100

of a low-bit-rate artery and a second multiplexer device is positioned at a second end of the low-bit-rate artery,

wherein the first multiplexer device is configured to:

extract a plurality of packets from first basic transmission units received from different originating terminals;

multiplex the extracted packets in a second basic transmission unit of a virtual ~~circuit~~ line between the first end and the second end of the low-bit-rate artery for transmission of the second basic transmission unit from the first end to the second end of the low-bit-rate artery;

and wherein the second multiplexer device is configured to:

receive the second basic transmission unit;

extract the packets from the second basic transmission unit;

determine the terminating terminal to which each of the packets belong; and

insert each of the packets into a third basic transmission unit at a rate of one packet per unit for transmission to the terminating terminal.

18. (Previously presented) The method according to claim 1, wherein if it is determined that any Common Part Sublayer packet has been lost, then generating conventional data to replace the lost Common Part Sublayer packet.

19. (Previously presented) The method according to claim 1, wherein the packet of application data further includes a signaling byte indicating a mode of operation comprising at least one of voice, fax, and the compression algorithm.

20. (Previously presented) The apparatus according to claim 11, wherein if the adaptation unit determines that any packet has been lost, the adaptation unit is further configured to generate conventional data to replace the lost packet.

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21. (Previously presented) The network according to claim 15, wherein if the device determines that any packet has been lost, the device is configured to generate conventional data to replace the lost packet.

22. (New) An apparatus for data transmission between an originating terminal and a terminating terminal in a communications network comprising at least one low-bit-rate artery and at least one standard-bit-rate artery, wherein the apparatus comprises:

(a) a first adaptation unit associated with the originating terminal, the first adaptation unit configured to:

receive, from the originating terminal, data according to a first protocol,

convert the received data into coded frames using a compression algorithm,

form a packet of application data according to a second protocol, the packet of application data comprising a plurality of the coded frames,

form a Common Part Sublayer packet comprising the packet of application data and a Common Part Sublayer header including information required by at least one of the first and second protocols, and

insert the Common Part Sublayer packet into a first basic transmission unit at a rate of one packet per unit for transmission to a first end of the at least one low-bit-rate artery;

(b) a first multiplexer device associated with an upstream switch of the at least one low-bit artery, the multiplexer device configured to:

extract the Common Part Sublayer packets from the first basic transmission units and from basic transmission units received from different originating terminals,

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Suite 2800
Seattle, Washington 98101
206.682.8100

multiplex the extracted Common Part Sublayer packets into a second basic transmission unit for transmission to a second end of the low-bit-rate artery, and

send the second basic transmission unit from the first end to the second end of the at least one low-bit-rate artery;

(c) a second multiplexer device associated with a downstream switch of the at least one low-bit artery, the multiplexer device configured to:

receive the second basic transmission unit,

extract the Common Part Sublayer packets from the second basic transmission unit,

determine the terminating terminal to which each of the Common Part Sublayer packets belong and inserting each of the determined Common Part Sublayer packets into a third basic transmission unit at a rate of one packet per unit, and

send the third basic transmission unit from the second end of the low-bit-rate artery to the terminating terminal; and

(d) a second adaptation unit associated with the terminating terminal, the second adaptation unit configured to:

extract the Common Part Sublayer packet from each third basic transmission unit,

determine an address of the terminating terminal,

determine whether any Common Part Sublayer packet has been lost,

extract the coded frames from the packet of application data, and

decompress the coded frames to recreate the data from the originating terminal.

23. (New) A network configured to convey data between at least two terminals, the network comprising:

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Suite 2800
Seattle, Washington 98101
206.682.8100

(a) one or more low-bit-rate arteries;

(b) one or more standard-bit-rate arteries;

(c) a first adaptation unit associated with an originating terminal, the first adaptation unit configured to:

receive, from the originating terminal, data according to a first protocol,

convert the received data into coded frames using a compression algorithm,

form a packet of application data according to a second protocol, the packet of application data comprising a plurality of the coded frames,

form a Common Part Sublayer packet comprising the packet of application data and a Common Part Sublayer header including information required by at least one of the first and second protocols, and

insert the Common Part Sublayer packet into a first basic transmission unit at a rate of one packet per unit for transmission to a first end of a low-bit-rate artery;

(d) a first multiplexer device associated with an upstream switch of the low-bit artery, the multiplexer device configured to:

extract the Common Part Sublayer packets from the first basic transmission units and from basic transmission units received from different originating terminals,

multiplex the extracted Common Part Sublayer packets into a second basic transmission unit for transmission to a second end of the low-bit-rate artery, and

send the second basic transmission unit from the first end to the second end of the low-bit-rate artery;

(e) a second multiplexer device associated with a downstream switch of the low-bit artery, the multiplexer device configured to:

receive the second basic transmission unit,

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Seattle, Washington 98101
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extract the Common Part Sublayer packets from the second basic transmission unit,

determine the terminating terminal to which each of the Common Part Sublayer packets belong and inserting each of the determined Common Part Sublayer packets into a third basic transmission unit at a rate of one packet per unit, and

send the third basic transmission unit from the second end of the low-bit-rate artery to the terminating terminal; and

(f) a second adaptation unit associated with the terminating terminal, the second adaptation unit configured to:

extract the Common Part Sublayer packet from each third basic transmission unit,

determine an address of the terminating terminal,

determine whether any Common Part Sublayer packet has been lost,

extract the coded frames from the packet of application data, and

decompress the coded frames to recreate the data from the originating terminal.

24. (New) The method of claim 1, wherein sending the second basic transmission unit from the first end to the second end of the low-bit-rate artery occurs at the end of an adjustable time lag which is set when a first Common Part Sublayer packet is inserted into the second basic transmission unit.

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100